APPENDIX H

CONSTRUCTION DIVE SURVEY

FAIRWEATHER

PACIFIC, LLC

ARCO ENVIRONMENTAL REMEDIATION LLC

PRC-421 Pier Removal Project

This section provides information on the results of an underwater diver and video inspection of the Pier PRC-421 structure as performed by Oceaneering Marine Engineering and Construction of Ventura, CA.

1.0 INTRODUCTION

On April 20, 1999, Oceaneering, under contract to Fairweather Pacific, began a diver/video survey of the Bird Island platform, pier piles, and Fugro sonar contacts on California State Lease Block PRC-421.

1.1 PROJECT OVERVIEW

Vessel

The vessel D/V "Safari" was used for the diving and video operations during the survey of the platform, piles, and sonar targets.

Date of Survey

The vessel D/V "Safari" was mobilized with diving and video equipment on April 19, 1999 at Santa Barbara Harbor. The vessel, dive team, and Fairweather Representative departed Santa Barbara Harbor at 06:30 on April 20, 1999. The visual and video survey of the structure and surrounding area was completed that day. The pile survey was completed on May 11, 1999 and the sonar site survey on May 12, 1999.

Survey Scope

Part (1) of the survey was to inspect the platform and the outside 150' area. This was completed at 11:16 on April 20, 1999.

Part (2) of the survey was to inspect the pier piles and sea floor debris, going into the beach from the platform. This was completed 12:25 at on May 11, 1999.

Part (3) of the survey was to locate the sonar targets previously charted during a bathymetry/sea floor survey, conducted by Fugro in March of 1999. Using the Latitude and Longitude provided by Fugro this was completed at 12:39 on May 12, 1999.

1.2 CONCLUSIONS

The structure below the surface is in a severe state of deterioration. The concrete is crumbling and it is easy for the diver to remove by hand. The continued wave and surge action is enough to remove concrete and expose more of the rebar and inner steel I-Beam structure. The rebar, skirts, and I-Beam structure which is exposed below the water line will continue to corrode and weaken the structure. Above the water line the structure is also deteriorating but not as rapidly as below or at the water line. This will add to the instability of the structure due to the rapid deterioration of the support structure below the water line and the slower deterioration of the heavier intact structure above. A severe storm with heavy seas may cause some of the legs to buckle and/or the platform to completely collapse.

2.0 INSPECTION DETAILS

2.1 STRUCTURE

Leg A-1
Debris on bottom. Pile of I-Beams 20' long on the N side. 10' off bottom there is a hole 3' deep x 5' wide. It covers about 80% of the Dia. Photo #11

Leg A-2
Debris on bottom. I-Beam 15' and 25' long. A 6" pipe comes out of the bottom and is bent over, which is 25' long and has a "Y" on the end. A hole (concrete damage)was located on the NE side, which was 1' long x 1' wide x 3' deep. On the SE side, 7' off bottom, a hole (concrete damage) was located which was10' long x 6' wide x 3' deep. The rebar is exposed in all areas of damage/deterioration). At a location 15' off bottom, on the SE side, there is a steel ring which appears to have fallen from upper part of the leg. The concrete is crumbling in that area 6' high and covers 50% of the Dia.

Leg A-3
Steel skirt 5' off bottom. Concrete is crumbling and rebar is exposed. Photo #9

Leg B-1
Debris field found between B-1 and A-1. 6' off bottom the concrete is missing. This area is 12' high and covers 100% of the Dia. Rebar and the inner I-Beam supports are exposed. Photos #12 & #13.

Leg B-2
Steel skirt 3' off bottom. Steel beam wrapped around leg above skirt. 5' off bottom the concrete is crumbling and the rebar is exposed on the SE side up to 20' off bottom. Concrete crumbling covers 50% of the Diameter. Located a 20' piece of I-Beam debris on bottom.

Leg B-3
Steel skirt at bottom of leg. Hole on bottom 5' long x 1 ½' wide x 3' deep on the SW side. 10' off bottom on SE side another hole 4' long x 1' wide x 18" deep. N side 15' off bottom concrete is worn away measuring 6' in diameter.

Leg C-1
The skirt is sitting 5' away from the leg. 6' off bottom there is a hole 2' deep and covers 50% of the Dia. 20' off bottom the rebar and the inner I-Beam structure is exposed. The area covers 100% of the Dia. And goes all the way to the surface. Diver reported that C-1 is the most deteriorated of all the Legs. Photo #15

Leg C-2
On the bottom, on the SE side, a hole (concrete damage) 3' long x 3' wide x 1' deep. 6' off bottom SE side there is a hole 4' long x 1 ½' wide x 1' deep. 15' off bottom, SE side, hole 5' long x 2' wide x 1' deep.

Conductor
6' off bottom the I-Beam support is broken off. It is partially attached and is bent over. See photo #14.

2.2 PIER PILES

Many of the piles were covered with sand and the visibility was not good enough to take still photos. Many of the piles were bent over (see job logs) towards the beach. The tallest of the piles found was 4' high with the exception of the piles in the rock pile area located approximately 200 feet from the shore. The I-Beam piles have a metal thickness of 1/8" on the outside and 1/4" on the inside. All piles found were in the same condition (See Photo #17). The rock pile was 4' high and some of the piles are sticking 4' out of the rocks. The sheet pile in the rock is 1/4" thick and is intact for the most part.

A conductor was found in the rock pile not mentioned in the 1987 Martech report. The conductor is 18" in Dia. And 8' high. A 36" casing is at the bottom of the conductor and is 3" high. (See Photo #18 and #19. Also see video log.)

Two Bents were found towards the beach, after the rock pile, which were not mentioned in the 1987 Martech report. (See Drawing in section 3). This is probably due to the time of year the inspection was done when sand had moved into the area. At the time of this inspection, the sand cover was heavy offshore and had less sand cover close to the beach.

2.3 FUGRO SIDE SCAN LOCATIONS

Side scan locations were searched out to 60' (120' Dia.) from the Latitude and Longitude coordinates, referenced from the FUGRO report. All targets were found to be natural formations with the exception of Location #1, #7, & #8.

Location #1 Crab Trap. Photo #20

Location #2 Rock. Photo #21

Location #3 Rock. Photo #22 &#23

Location #4 Rocks. Photos #24, #25, & #26

Location #5 Rocks. Photos #27, #28, & #29

Location #6 Rock. Photo #30

Location #7 Sheet pile. Photos #31 & #32

Location #8 I-Beams. Photo #16

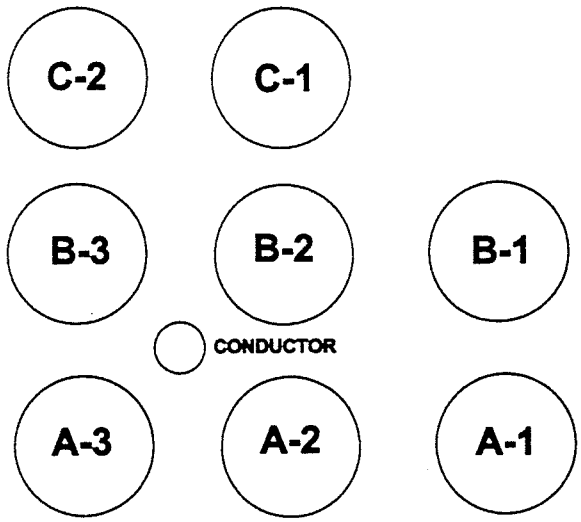
NOTE:

Also see video logs Section 4 for reference to video tape footage of these areas.

OCEANEERING

Marine Engineering & Construction

Arco Pier PRC - 421 (Bird Island) May 12, 1999



DEPTH = 28'

DEPTH = 26'

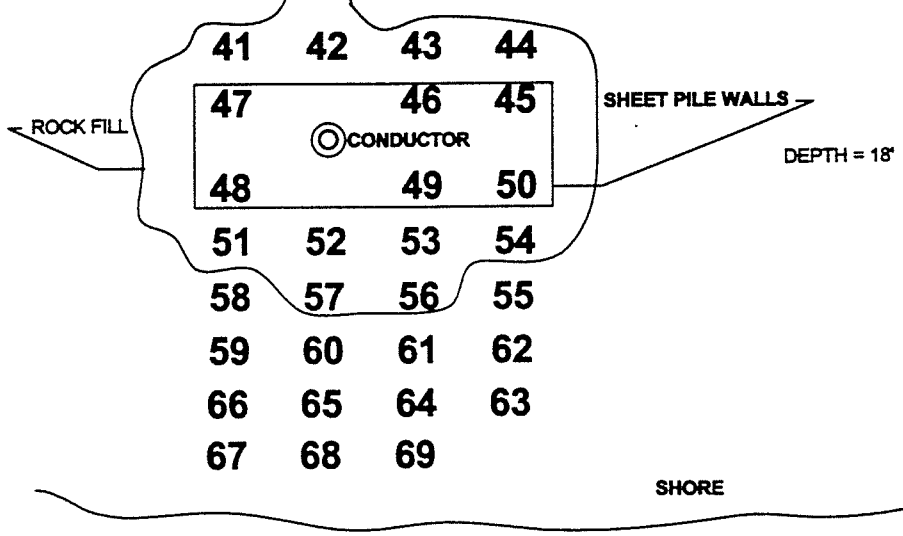
DEPTH = 25'

I-BEAM PILE LOCATIONS

BENT #1	13	12	11	10	9	8	7
BENT #2		1	2	3	4	5	6
BENT #3		14	15		16		
BENT #4	18	17					
BENT #5 COVERED							
BENT #6		19					
BENT #7			20				
BENT #8			21	22	23	24	25
BENT #9		26	27	28			
BENT #10		29		30			
BENT #11						32	31
BENT #12						33	
BENT #13				36	35	34	
BENT #14			40	39	38	37	
BENT #15			41	42	43	44	
BENT #16			47		46	45	
BENT #17			48		49	50	
BENT #18			51	52	53	54	
BENT #19			58	57	56	55	
BENT #20			59	60	61	62	
BENT #21			66	65	64	63	
BENT #22			67	68	69		

DEPTH = 20'

NOTE: Many piles could not be found due to heavy sand coverage.



A6